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Eglin Munitions completes new payload in record time

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EGLIN AIR FORCE BASE, Fla. (AFMCNS) - Eglin munitions experts recently gave America's warfighters a new weapon that destroys targets with kinetic energy rather than explosives, and they had the initial capability available a mere 98 days after receiving the request.

The Passive Attack Weapon houses various sizes of penetrator rods inside what Dr. John Pletcher, Area Attack Weapons Systems Program Office technical director here called a "large water heater with fins." Guided by a Wind-Corrected Munitions Dispenser tail kit to help with accuracy, the munition's full production of weapons was completed in 180 days, a feat Pletcher said normally takes years.

"They way the PAW works is after being dropped from an aircraft, the weapon's outer skin separates at a preset altitude, allowing the individual penetrator rods to free fall to the earth and penetrate their target," Pletcher said. "With this munition, there is no explosive warhead and minimal collateral damage."

The CBU-107 Passive Attack Weapon is a modified Wind-Corrected Munitions Dispenser packed with 3,700 non-explosive kinetic energy penetrator rods. It is designed for use when there is a need to disable the target without destroying its surroundings. (Courtesy photo)

Given the initial tasking Sept. 10, experts from the Air Armament Center, Air Force Operational Test and Evaluation Center, Air Force Research Laboratory Munitions Directorate and 53rd Wing had developed, tested and delivered the new CBU-107 Passive Attack Weapon by December. The weapon's full production was completed March 9, according to Col. James Knox, program director for the Area Attack Systems Program Office, who was in charge of the team.

Knox said the new weapon is designed for use in an environment where warfighters need to disable a target without destroying its surroundings. Some examples include storage facilities, fuel storage depots, power substations or antenna fixtures.

"It's another way to achieve a battlefield effect without an explosion," Knox explained. "They give you the capability to attack non-hardened surface targets, and do so with a minimum of collateral damage."

Pletcher used a fuel drum as an example.

"The PAW could be dropped on the drum, puncturing it and allowing the fuel to drain without catching on fire or leaving unexploded ordnance on the battlefield for ground troops to worry about," he said.

The $40 million rapid response development made its combat debut in Operation Iraqi Freedom, although specific uses of the PAW have not been disclosed.

"I know that it was used," Knox said, "and I've gotten no negative feedback."

Two years ago, Air Combat Command discussed a need for such a weapon like the PAW and Air Force Research Laboratory experts worked on an early design, but funding was never approved. Knox said after receiving the request last fall, lab officials moved forward with the concept.

"The rapid turn from concept to production weapon was possible due to a design philosophy the Munitions Directorate used from the beginning," said Ken West, Air Force Research Laboratory official. "Wherever possible, existing systems and sub-systems were used, saving dollars and the time required to certify the weapon for aircraft carriage and delivery."

"Most importantly, the effort showed that the munitions directorate, working with Team Eglin, was able to step-up to

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meet the warfighter's needs quickly and efficiently," said Col. Mike Ruff, Air Force Research Laboratory Munitions Directorate director.

Knox not only used many facets of Team Eglin, but he also pooled together various contractors in a very short amount of time to create the CBU-107.

General Dynamics experts made the kinetic energy penetrator payload and all of its supporting structure to hold it inside, he said. Lockheed Martin workers produced the WCMD guidance kit and people from Textron Systems produced the tactical munitions dispenser kit.

The CBU-107 has the same shape and weight as a CBU-103 or a CBU-105 bomb. This saved the developmental team time because they didn't have to perform flight separation checks on the new weapon and the aircraft software package is the same, Knox said.

"From a load crew's standpoint, they know exactly how to do this because it's the same as the existing WCMD family of weapons," explained Knox. "And same for the aircrews; they know how to deliver it, because they deliver it the same as the others."

Although the program was a success, Knox said there is nothing in the way of a follow-on program immediately coming from the Air Force.

"Right now all planned production has been completed," Knox said. "However, in the wake of the current combat operations, each of the services will be reviewing their performance and their capabilities versus what they needed." @